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AN ANALYSIS OF THE DECORATIONS UPON POTTERY FROM THE MISSISSIPPI VALLEY.

THE ceramic art of the Mississippi valley, so far as it relates to the pottery from the tumuli of Missouri, Arkansas, and portions of some of the adjoining States, seems to be indigenous to that region, and the evolution of both form and ornament can be more readily traced in specimens from these localities than in the more highly developed pottery of the Pueblo region, Mexico, or Central America. Archaic designs upon basketry seem to have had no influence upon the ornamentation of the Mound pottery. The decorative motives are mostly of symbolic origin, and were evidently closely associated with the religious beliefs and ceremonies of the people.

Many of the symbols from which were evolved the artistic designs upon this pottery have been in use among various tribes within the historic period from the Great Lakes to Mexico, and while the interpretation of the same sign among different tribes is not always the same, the different meanings applied to the same symbol usually indicate a common root.

Several of the symbols carved upon the shell gorgets from the Mississippi valley also constitute an important part of the designs upon pottery, and, although they are somewhat modified in form, they are easily recognized. The animal forms upon this class of gorgets—the spider, the serpent, and the bird—rarely occur as decorative designs upon the pottery. We find present the geometric

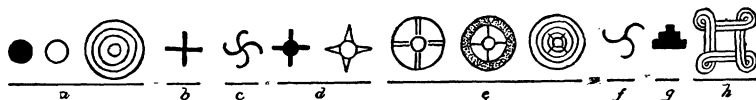


FIG. 1. Symbols from which were derived most of the decorations upon the Mound pottery of the Mississippi valley. *a*. Sun symbols; *b*. Symbol of the four directions and the four winds; *c*. American swastika or four-wind symbol; *d*. Symbols of the sun and four winds; *e*. Cosmic symbols; *f*. American triskele; *g*. Cloud symbol; *h*. Looped band.

symbols which commonly accompany the animal forms,—the concentric circles, the cross inclosed within the circle, and the looped bands, together with the swastika and the triskele.

In Fig. 1 we have a series of drawings illustrating the symbols from which a great majority of the painted and incised decorations probably originated. The following interpretations of some of these signs are those most commonly applied by historic tribes.

The disk, the circle,¹ and the concentric circles *a*, are sun symbols,

¹ The circle is also the totem of the Tüwa gens of the sand or earth people of Tusayan, and represents the horizon. See "Tusayan Totemic Signatures," J. W. Fewkes, *The American Anthropologist*, vol. x. No. 1, January, 1897.

the first two being still in use among the Omahas, and the third is a sun symbol of the Ojibwas. The latter, slightly modified, also appears upon the Post-Columbian Mexican manuscript discovered by Mrs. Nuttall in the Florence Library, and is also designated as a sun symbol. It seems probable that this design, which we find carved upon shell, painted upon pottery, and occasionally wrought in copper, was closely associated in prehistoric times with sun or fire worship. Sun worship, as is well known, constituted an important part of the religion of the historic tribes of the central Mississippi region.

The equal-armed cross, *b*, is widely distributed over America, and among historic tribes usually symbolizes the four cardinal points, or the four winds. Among the Pueblo tribes, however, it is a star symbol. The American ogee swastika, *c*, is also widely distributed, and is recognized as a wind symbol by various tribes. Its evolution from the equal-armed cross inclosed within a circle can be traced independently in different localities. Combinations of the simpler sun signs and the symbol of the four winds will be recognized in *d*. Miss Alice C. Fletcher informs me that these symbols are still in use among the Omahas and Sioux as the sun and four-wind signs.

The drawings in Fig. 1, *e*, are cosmic symbols representing the sun, the four winds, and the horizon. The two at the right show in addition the waters which encircle the earth. The world of primitive man was bounded by the horizon,—an immense circle over which the sun daily took its course, establishing the cardinal points, the recognition of which forms so conspicuous a part of the religious ceremonies of the Indians.

When man desired to represent symbolically the world as known to him, he drew a circle representing the horizon, in the centre of which he placed a smaller circle symbolic of the sun in the zenith. From the central sun symbol four lines were drawn to the outer circle, dividing it into four equal parts, these lines representing the four world-quarters and the four winds. Many figures of the sun occur inclosing an equal-armed cross. It should be borne in mind that the centre of the sun when in the zenith is the point where the four arms forming the cross are supposed to meet, and that the sun and the four directions may be represented with the arms projecting from a disk or circle, as in Fig. 1, *d*; or the circle may inclose the cross, as in Fig. 9, *a*, *b*, *c*, and *d*.

In addition to the cosmic symbol as illustrated in *e*, Fig. 1, four dots or circles sometimes occupy the spaces between the arms of the cross, — one near the centre of each quadrant.

This symbol and its derivatives, the sun sign in its various forms, the equal-armed cross, and the swastika, have been found among

the remains of the great earthwork-builders of the Ohio valley, some of them cut from native copper,¹ and with the exception of the swastika they are represented in the great earthworks themselves. This symbol extends from Ohio southward throughout the southern portions of the United States and into Mexico and Central America, where it is common in the codices, upon pottery, and upon the sculptural remains.

The cosmic sign is generally considered a sun or day symbol when occurring in the Maya manuscripts. As a day sign its meaning is clear, but as a simple sun sign its original significance is but imperfectly applied. An interesting example of this sign is to be found in the Mexican manuscript already referred to (Fig. 1, *e*, middle drawing). In the original the central sun disk is colored a bright yellow, and the outer zone, symbolizing the waters which surround the earth, is painted blue. The drawing at the right (Fig. 1, *e*) is a modern symbol of the sun, earth, water, and four winds.²

The triskele, *f*, frequently occurs upon pottery and other objects from the Mississippi valley. It is also found in the Pueblo region, Mexico, and Central America. It is often associated with the swastika, and in the north seems occasionally to be substituted for that sign. I know of no satisfactory explanation of its significance.

The terraced figure, *g*, is a well-known design of both the ancient and modern Pueblo Indians. Dr. Fewkes informs me that among the Mokis it is a cloud symbol. It seems probable that a similar meaning was applied to this design by the Mound-builders, as it is frequently associated with the wind symbol upon Mound pottery.

The looped band, *h*, which occurs in connection with the four heads of birds upon shell gorgets, is also found upon the pottery, and occasionally forms a symbolic ornament around bird-shaped bowls.

Having thus briefly described the symbols from which were probably derived most of the decorations upon the pottery, I will call attention to the occurrence of some of these forms in connection with sun worship among the historic Indians of the region where many of the specimens illustrated were obtained.

During the visit of Thomas Ashe in 1806 to the Indian village of

¹ For examples of the cosmic symbol from Ohio see "Symbolism in Ancient American Art" (abstract), by F. W. Putnam and C. C. Willoughby: *Proceedings of the American Association for the Advancement of Science*, vol. xlv. 1896.

² Alice C. Fletcher, "The White Buffalo Festival of the Uncpapas:" *Peabody Museum Reports*, vol. iii. pp. 264, 265.

Ozak in Arkansas, he witnessed one of the quarterly sun ceremonies performed by the inhabitants. The following is condensed from Ashe's account :—

The natives divided into classes, each class standing in the form of a quadrant, and each class held an offering to the sun the instant he rose. The warriors presented their arms, the young men and women offered ears of corn and the branches of trees, and the mar-

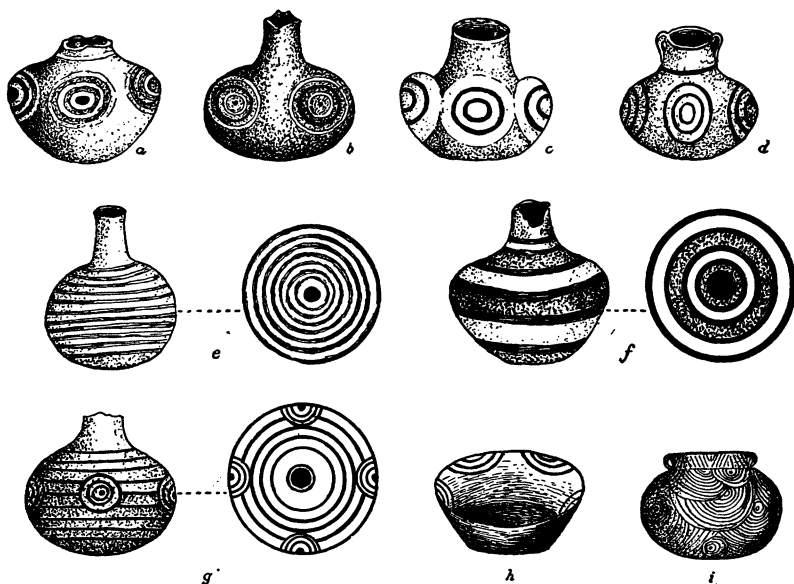


FIG. 2. Pottery with decorations derived from the sun symbol, composed of concentric circles. *a-h.* Missouri; *i.* Arkansas. *a, c, e, f, g, and i.* Peabody Museum; *b, d, and h.* St. Louis Academy.

ried women held up to his light the infant children. Immediately after this address the four quadrants formed one immense circle several deep, and danced and sung till about ten o'clock, and then dispersed. At noon they again assembled and formed a number of circles, and commenced the adoration of the midday sun, after which a feast was prepared. Then they reposed until the sun was about to set, which being reported by watchers, the people assembled in haste, formed themselves into segments of circles, and presented their offerings during his descent. When the sun does not shine or appear on the adoration day, an immense fire is erected, around which the ceremonies are performed with equal devotion and care.¹

We are not informed as to the relative positions of the four quadrants, but it is probable that their right angles were placed near

¹ Thomas Ashe, *Travels in America*, pp. 305-308.

together, forming thereby the equal-armed cross within a circle. This figure together with others formed by the people during the ceremony, the immense circle and the (concentric?) circles, are the same as the sun sign and other symbols appearing upon pottery and other objects throughout the region. The resemblance of the figures to the symbols is more striking if we imagine the circles and quadrants to be formed around an immense fire, symbolic of the sun, upon days when the sun does not appear, as mentioned by Ashe.

A series of well-made pottery vessels with both painted and incised decorations is shown in Fig. 2; *a*, *b*, *c*, and *d* each have four groups of concentric circles placed around the body of the vase, — one group for each world-quarter. In *e* and *f* the rings are placed hori-

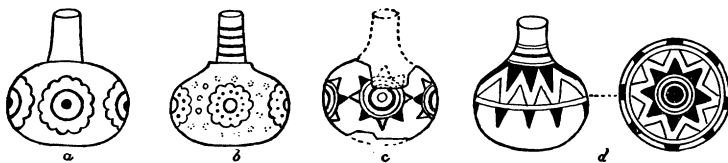


FIG. 3. Vases decorated with sun symbols. *a* and *b*. Peabody Museum; *c* and *d*. St. Louis Academy. Mounds of Missouri.

zontally, and the significance of the decoration appears only when viewing the vessel from above or below. In *g* we have both a vertical and a horizontal arrangement of the circles. The decorations of the vessels *h* and *i* are derived directly from the sun symbols, the inner margin of the bowl being decorated with groups composed of several semicircles, or one half of the sun symbol. The incised decoration of *i* is also composed principally of concentric circles. The

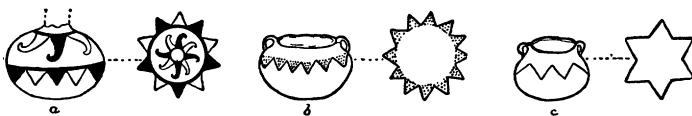


FIG. 4. *a*. Vase decorated with design derived from the sun and four-wind symbols. The ornamentation upon *b* and *c* is probably derived from the rays of the sun. Peabody Museum. Mounds of Missouri.

simple disk, usually colored red, is found upon the bottom of a number of vases, generally in company with the design derived from the swastika, or wind symbol. See Fig. 16, *b*.

A series of vases having similar decorations to those in Fig. 2 is shown in Fig. 3. These have in addition rays or scallops projecting from or surrounding the outer ring. The symbols are arranged in groups of four upon the first three specimens. The decoration of the fourth example, *d*, consists of a single sun symbol with beams

radiating from a circle at the base of the neck of the vessel. The incised decorations upon *b* and *c*, Fig. 4, are apparently derived from the rays of the sun, as is also the design encircling the body of the vase illustrated in *a*. The motive of the decoration at the base of the neck of the same vessel is the swastika, the two figures forming a combination of the sun and four-wind symbols.



FIG. 5. Vase decorated with design derived from sun symbol. Peabody Museum. Missouri.

Other decorations, probably derived from the sun, or sun and four-wind symbols, are illustrated in Figs. 5 and 6. The design upon the long-necked vase shown in Fig. 5 consists of a circle surrounding the body of the vase, from which upon either side project rays. The more intricate incised decoration upon the vessel illustrated in Fig. 6 is composed of six symbols, four of which have four rays each. The two upper examples each have five rays.

Another modification of the same motive will be seen in the examples illustrated in Fig. 7. Painted circles inclose the neck of the vases. From the lower circle in *a* four symbolic arms project downward, terminating at the rim of the base. Upon the base of *b* a disk is painted, from which spring the four arms which rise towards the neck, terminating a short distance from the lower ring. The

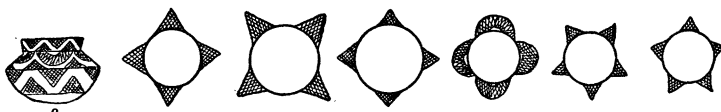


Fig. 6. Vase with incised decorations, probably derived from the symbol of the sun or sun and four directions. The six symbols which compose the decoration upon the vase are also shown. Peabody Museum. Arkansas.

specimen shown in *c* has a single ring near the neck and another at the base. Four bands connect these rings, forming a design closely resembling the cosmic symbol. In *a* and *b*, Fig. 8, the same general design appears with additional connecting bands. In these

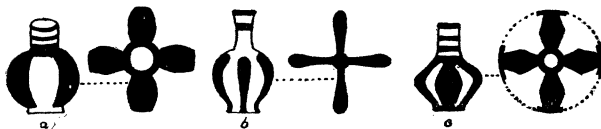


Fig. 7. *a* and *b*. Vases decorated with symbols of the sun and four directions; *c*. Vase with cosmic symbol as a decorative motive. *a*. Missouri; *b* and *c*. Arkansas. Peabody Museum.

specimens symbolism appears to be subordinate to æstheticism. In the beautiful example illustrated in *c*, the circles and rays appear upon the neck, — the decorations upon the body of the vase being

apparently evolved from the original four perpendicular bands shown in Fig. 7.

Upon the vases illustrated in Fig. 9 is drawn a series of designs

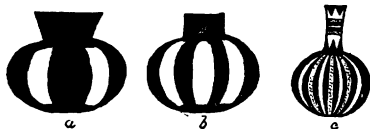


FIG. 8. Vases with decorations probably derived from the symbol of the sun and four directions. *a* and *b*. Arkansas. Peabody Museum. *c*. Missouri.

closely resembling some of those previously described. These, with the exception of *c*, have in addition an equal-armed cross inclosed by the inner circle. In *a*, *b*, and *d*, the symbols are arranged in groups of four.

An examination of the bird gorgets in the Peabody Museum,¹ from the stone graves of Tennessee, shows that the sun symbol

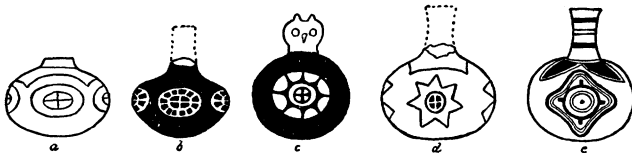


FIG. 9. Vases decorated with designs derived from the symbol of the sun and four directions. *a*, *b*, and *e*. Missouri. St. Louis Academy. *c*. Kentucky; *d*. Missouri. Peabody Museum.

which forms the centre of the design is either a dot inclosed within a circle, or the more elaborate design of circles with rays inclosing an equal-armed cross, and, as before stated, the centre of the sun when in the zenith is the point where the lines of the four directions meet, and the sun and four directions may be represented both as

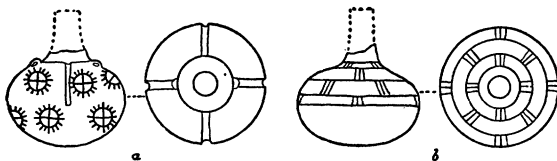


FIG. 10. Vases decorated with designs derived from the symbol of the sun and four directions and the cosmic symbol. Missouri. Peabody Museum.

a disk or circle with radiating arms, or a circle inclosing an equal-armed cross. As previously noted, the equal-armed cross is a star symbol among the modern Pueblo tribes, but the evidence does

¹ Examples of these gorgets are illustrated in the second volume of the Reports of the Bureau of Ethnology, plates lviii. and lix.

not indicate that it was so regarded by the early tribes of the Mississippi valley.

The vase at the left in Fig. 10 is decorated with a number of circles, each inclosing an equal-armed cross, and each surrounded by rays. The vessel has also four grooves projecting downwards from near the base of the neck, dividing the vase into quarters. Upon the specimen at the right in the illustration has been painted a design in circles, connected, and divided into quarters, by upright lines. This design, when viewed from above, resembles the cosmic symbol.

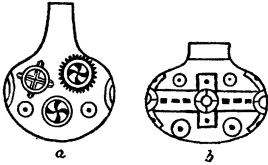


FIG. 11. Vases decorated with designs derived from the sun symbols, the symbol of the four winds, and the cosmic symbol. *a.* Missouri. St. Louis Academy. *b.* Missouri. Peabody Museum.

The design upon the vase illustrated in Fig. 11, *b*, consists of four cosmic symbols placed at equal intervals and connected by broad bands. Above and below each symbol is placed a wide, projecting arm, which, together with the half of the segment of the encircling band upon either side of the symbol, forms a cross. Circles inclosing disks are placed in the angles between the arms.

The accompanying drawing, *a*, illustrates a vase decorated with circles inclosing disks, straight-armed crosses, and swastikas. In the upper left design the arms of the cross project beyond the outer sun circles. This figure is an excellent illustration of the combination of the two forms of the sign of the sun and four directions, — the circle encircling the cross, and the circle with the four radiating arms.

Fig. 12, *a*, is a drawing of a small shell gorget from Missouri. It

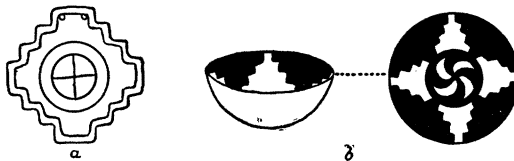


FIG. 12. *a.* Shell gorget. Missouri. *b.* Bowl decorated with terraced figures and swastika, symbols of the clouds and the four winds. Arkansas. Peabody Museum.

is in the form of a cross, each arm being composed of a terraced figure. In the centre of the gorget are two concentric circles inclosing a cross.

The bowl shown in *b* has a similar design painted upon the inner side, the swastika taking the place of the straight-armed cross and the inner circle in the centre of the gorget. The swastika, or four-wind symbol, associated with the terraced figure, emblem of the clouds which bring the wind, also forms the decoration upon vases from the mounds, an example of the combination being illus-

trated in Fig. 17, *d*. Specimens are not uncommon where the ornamentation is composed wholly of terraced figures, usually, though not always, arranged in groups of four. Examples are shown in Fig. 13.

Bowls with four terraced projections at the rim are occasionally found closely resembling in form the sacred-meal bowls of the Zuñis.

In Figs. 14, 15, 16, and 17 we have a series of bowls and vases



FIG. 13. *a*. Vase decorated with terraced figures. Arkansas. Peabody Museum. *b*. Vase decorated with terraced figures. Arkansas. National Museum.

showing the evolution of the beautiful scroll-like designs so characteristic of the Mound pottery. Fig. 14, *a*, is a bowl about twelve inches in diameter, having a central disk from which radiate the four world-quarter arms; *b* is a bowl of about the same size as the latter, with

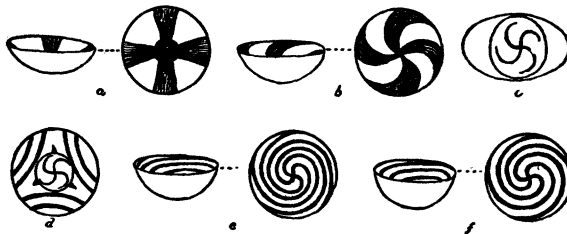


FIG. 14. *a*. Bowl decorated with the symbol of the sun and four directions; *b*. Bowl decorated with symbol of the four winds; *c*. Bottom of vase with swastika decoration; *d*. Bottom of vase with swastika decoration; *e* and *f*. Bowls with symbol of the four winds or swastika. All from Arkansas. Peabody Museum.

the swastika occupying its inner surface; *c* shows the bottom of a small vase of peculiar pattern with the swastika incised upon it; *d* shows the bottom of a vase with a painted swastika; *e* and *f* are bowls with swastika decorations, the curved arms of the crosses being much elongated.

Fig. 15 represents an artistically formed vase decorated with three swastikas, the ends of a portion of the arms being modified to fill the intervening undecorated spaces between the crosses.

Fig. 16 represents the next stage in the development of the scroll. In this example, as in the great majority of specimens of like design (see also Fig. 17), four swastikas are employed, and the ends of

the arms of the adjacent crosses are joined. Upon the bottom of this vase a sun disk is painted, and the arrangement of the arms of the swastikas is such as to make a cruciform pattern, which appears



FIG. 15. *a.* Vase decorated with three swastikas, the ends of some of the arms of the crosses being curved to fill the blank space on vase; *b.* The three swastikas forming the design upon the vase. Arkansas. Peabody Museum.

when the vase is viewed from below. This cruciform figure was originally accidental, and was taken advantage of by the decorator, and the sun disk, or in some instances the swastika, was added to complete the figure.

In Fig. 18, *b*, the vase is so constructed as to form a cross when

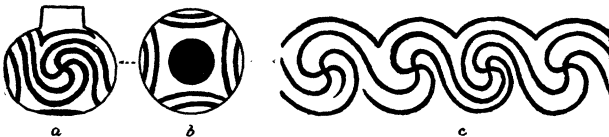


FIG. 16. *a.* Vase with swastika decorations, the ends of the arms of the crosses being joined; *b.* Vase seen from below, showing sun disk and cruciform figure formed by the lower arms of the swastikas; *c.* Design encircling the vase. Arkansas. Peabody Museum.

viewed from above or below. The examples illustrated in this figure have incised decorations and are unpainted. In *a* and *b* the designs are more purely decorative than those previously described, and additional arms are employed to complete the patterns. The

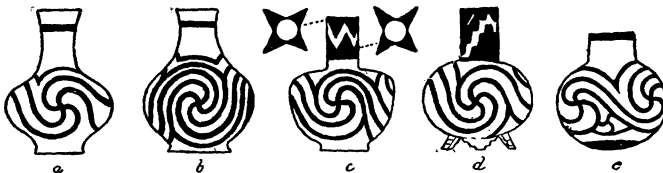


FIG. 17. Vases decorated with joined swastikas and other designs. Upon the neck of *d* four terraced cloud figures are painted, and the legs of the vessel are also terraced. Arkansas. Peabody Museum.

reason for the multiplication of the arms of the cross is apparent. The incised lines occupy so much less space than the broad arms of the painted designs that other arms were added to fill the remaining spaces, and the symbolic features became subservient to the decoration.



FIG. 18. Vases decorated with incised designs derived from the swastika, or four-wind symbol. *a* and *b* show both the sides and under part of vases. *a* and *c*. Arkansas. Peabody Museum. *b*. Mississippi. Peabody Museum.

Other designs derived from the swastika are shown in Fig. 19. Three scrolls, each formed of one half of this cross, compose the decorations upon vase *a*. The interlocked curved arms appearing in white near the centre of the drawing, inclosed within the curves of the S-shaped design in black, are identical with the interlocked scroll so common upon the ancient pottery from Arizona and New Mexico.

A further development of this pattern will be seen in the vase illustrated in *b*. The design upon the right side of the vessel, which is derived from the swastika, is represented in black, the interlocked arms appearing in white as before. The black line forming the scroll at the left is broken, the ends interlocking, and the continuous S-shaped figure, originally in black, now appears in white. This is another feature in common with the ancient Pueblo design.

The artistic decoration upon the vase illustrated in *d* is also derived from the S-shaped line forming one half of a swastika.

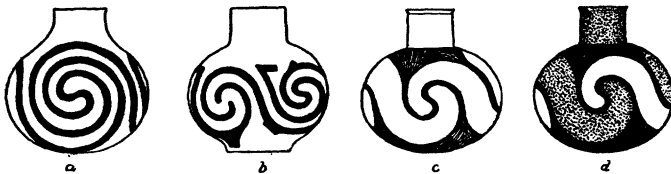


FIG. 19. *a*. Vase decorated with designs composed of one half of the swastika. Arkansas. Peabody Museum. *b*. Vase decorated with design derived from the swastika. Arkansas. National Museum. *d*. Vase with decoration derived from the swastika. Arkansas. Peabody Museum. *c*. Same as *d*, showing development of ornament.

This will be better understood by examining the drawing *c*, which shows the first stage of the decoration. The ends of the S-shaped line are expanded, and form the ornaments upon the top and bottom of the vessel. To complete the decoration the spaces upon either side of the S-shaped line were filled with contrasting colors, red and white. This design is duplicated upon the side not shown in the drawing.

Examples of the triskele are illustrated in Fig. 20, and upon the vase shown in *e*, Fig. 17. While less common than the swastika, the triskele is extensively distributed over America, and is found as far south as Copan, Honduras. There seems to be an intimate connection between this symbol and the swastika.

In Fig. 21 vessels with both painted and incised designs are shown, the motive of which is the looped band found in connection with birds' heads and the symbol of the sun upon shell gorgets from Tennessee. One of the bowls illustrated is in the form of a bird, and the looped band constitutes the decoration upon the outer side near the rim. The head of the bird is crested, which is also a noticeable feature of the birds' heads carved upon the gorgets.

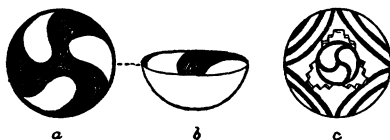


FIG. 20. *a* and *b*. Bowl decorated with figure of the triskele. Arkansas. Peabody Museum. *c*. Under side of vase shown in *d*, Fig. 17. Arkansas. Peabody Museum.

The design upon the vase illustrated in *c* is the looped bands associated with circles inclosing disks, a simple form of the sun symbol. The design upon *d* will be recognized as the looped band combined with a pattern apparently derived from the swastika. Upon the gorgets we have the band, the birds' heads, and the sun all combined in one design. In the pottery are the following combina-

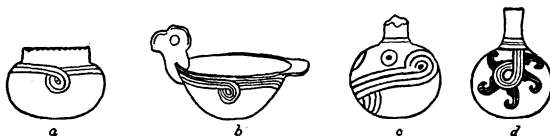


FIG. 21. Vessels decorated with the looped band, or the looped band combined with other designs. *a*, *c*, and *d*. Missouri. Peabody Museum. *b*. Missouri. National Museum.

tions: the band and the bird, the band and the sun, and the band and the modified swastika.

Interesting examples of Mound pottery are illustrated in the Third and Fourth Annual Reports of the Bureau of Ethnology, several of which are decorated with designs derived from the symbols described.

A comparison should also be made between the decorations upon the Mound pottery and the engraved gorgets illustrated in Mr. Holmes's article in the second volume of the same publication. My studies of this system of decoration are based upon the collections of pottery in the Peabody Museum.

C. C. Willoughby.

CAMBRIDGE, MASS.